AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for ~~of~~ predicting motion vectors associated with blocks ~~a block~~ of pixels of a picture to be included in a data stream for differential motion vector coding of a video signal, said method comprising the steps of :

~~a)~~ organising a set of reference pictures into ~~in to~~ a pair of lists and according to each reference picture within said lists at least one reference index [[,]] :

~~b)~~ associating with selected ones of said blocks in said video signal at least one motion vector that references a respective one of said lists, ~~with~~ each vector associated with a selected one of the blocks referencing a different list of said lists , each vector defining disposition ~~of which vectors defines dispositon~~ of said selected one of the blocks ~~block~~ relative to a reference picture in the respective one of said lists ~~, and~~ ; and,

~~c)~~ computing a predicted value for a current vector ~~each~~ of said vectors for a current block from vectors of adjacent blocks referencing a ~~the~~ same list of reference pictures as the current vector ~~being computed , whereby~~ , ~~the~~ wherein prediction of a motion vector that selects a reference picture using a first ~~certain~~ list of reference pictures is not dependent upon ~~the~~ motion vectors whose reference pictures are selected using a second ~~the other~~ list of reference pictures.

2. (Currently Amended) The method of claim 1 wherein said computing uses ~~computation utilises the~~ values of spatially neighbouring motion vectors that use the same list of reference pictures as the ~~motion~~ current vector ~~being predicted,~~ regardless of ~~the~~ relative temporal direction of ~~the~~ reference pictures selected for the current vector and neighbouring motion vectors.

3. (Currently Amended) The method of claim 1 ~~A method according to claim 1,~~ wherein the ~~motion-compensation-based video coder~~ motion vector coding supports a plurality of block partition sizes for performing motion compensation.

4. (Currently Amended) ~~The method of claim 3~~ A method of motion vector prediction according to ~~claim 3,~~ wherein the block partition sizes ~~for motion compensation~~ include partitions of 16x16, 16x8, 8x16, 8x8, 8x4, 4x8, and 4x4 luminance samples.

5. (Currently Amended) The method of claim 1 ~~A method according to claim 1,~~ wherein said motion vectors may be computed using one of a plurality of predefined computation strategies.

6. (Currently Amended) The method of claim 5 ~~A method according to claim 5,~~ wherein a first strategy of said strategies uses ~~utilises~~ a ~~motion~~ vector from a single neighbouring block that uses the same list as the ~~motion~~ current vector ~~being predicted~~ .

7. (Currently Amended) The method of claim 6 ~~A method according to claim 6,~~ wherein said first strategy is applied only when ~~the~~ a block partition size of the current block for ~~which~~ the ~~motion~~ current vector ~~is being predicted~~ is 16x8 or 8x16 luminance samples.

8. (Currently Amended) The method of claim 7 ~~A method of motion vector prediction according to claim 7,~~ wherein if the current ~~motion~~ vector applies to a ~~the~~ top half of a 16x8 partitioned macroblock and a ~~the~~ block immediately above the current block in the picture contains a ~~motion~~ vector that uses the same reference picture list and reference index as the current ~~motion~~ vector, the ~~predicted motion~~ current vector is set equal to the ~~motion~~ vector ~~value~~ that uses the same reference picture list in the block immediately above.

9. (Currently Amended) The method of claim 7 ~~A method of motion vector prediction according to claim 7,~~ wherein if the current ~~motion~~ vector applies to a ~~the~~ bottom half of a 16x8 partitioned macroblock and a ~~the~~ block immediately left of the current block contains a ~~motion~~ vector that uses the same reference picture list and reference index as the current ~~motion~~ vector, the ~~predicted motion~~ current vector is set equal to the ~~motion~~ vector ~~value~~ that uses the same reference picture list in the block immediately left of the current block.

- 4 -

10. (Currently Amended) The method of claim 7 ~~A method of motion vector prediction according to claim 7,~~ wherein if the current ~~motion~~ vector applies to a ~~the~~ left half of an 8x16 partitioned macroblock and a ~~the~~ block immediately left contains a ~~motion~~ vector that uses the same reference picture list and reference index as the current ~~motion~~ vector, the ~~predicted motion~~ current vector is set equal to the ~~motion~~ vector ~~value~~ that uses the same reference picture list in the block immediately left.

11. (Currently Amended) The method of claim 7 ~~A method of motion vector prediction according to claim 7,~~ wherein if the current ~~motion~~ vector applies to a ~~the~~ right half of an 8x16 partitioned macroblock, and a ~~the~~ block above and to the right of the current block is available, and the above and to the right ~~above-right~~ block contains a ~~motion~~ vector that uses the same reference picture list and reference index as the current ~~motion~~ vector, the ~~predicted motion~~ current vector is set equal to the ~~motion~~ vector ~~value~~ that uses the same reference picture list in the block above and to the right of the current block.

12. (Currently Amended) The method of claim 7 ~~method of motion vector prediction according to claim 7,~~ wherein if the current ~~motion~~ vector applies to a ~~the~~ right half of an 8x16 partitioned macroblock, and a ~~the~~ block immediately above and to the right is not available but a ~~the~~ block above and to the left is available, and the block above and to the left contains a ~~motion~~ vector that uses the same reference picture list and reference index as the current ~~motion~~ vector, the ~~predicted motion~~ current vector is set equal to the ~~motion~~ vector ~~value~~ that uses the same reference picture list in the block above and to the left.

13. (Currently Amended) The method of claim 5 ~~A method of motion vector prediction according to claim 5,~~ wherein a second ~~computation~~ strategy selects ~~motion~~ vectors from up to three neighbouring blocks.

14. (Currently Amended) The method of claim 13 ~~A method according to claim 13~~ wherein said three neighbouring blocks are a ~~the~~ block to the left of the current block, a ~~the~~ block above the current block, and a ~~the~~ block above and to the right of the current block.

15. (Currently Amended) <u>The method of claim 14</u> ~~A method according to claim 14~~ wherein if the block above and to the right is not available then the block above and to the left is used, if available.

16. (Currently Amended) <u>The method of claim 13</u> ~~A method of motion vector prediction according to claim 13,~~ wherein if no ~~motion~~ vector using the same reference picture list is available in one of said <u>three</u> neighbouring blocks, a zero-valued motion vector, (0,0), is used in place of ~~the motion~~ <u>a</u> vector from ~~that block~~ <u>one of said three neighbouring blocks</u> .

17. (Currently Amended) <u>The method of claim 13</u> ~~A method of motion vector prediction according to claim 13,~~ wherein <u>if</u> ~~in the case that the~~ blocks above, above and to the left, and above and to the right of the current block are not available within <u>a</u> ~~the~~ same picture or slice as the current block, and <u>a</u> ~~the~~ block to the left of the current block is available, ~~a predicted motion~~ <u>the current</u> vector <u>is set</u> equal to <u>a</u> ~~the motion~~ vector used for the block to the left of the current block ~~is utilized~~ <u>.</u>

18. (Currently Amended) <u>The method of claim 13 wherein</u> ~~A method of motion vector prediction according to claim 13, wherein,~~ if <u>a</u> ~~the~~ left block is <u>an</u> ~~the~~ only available block of the <u>three</u> ~~3 selected~~ neighbouring blocks, and if one and only one of the three ~~selected~~ neighbouring blocks contains a ~~motion~~ vector that uses the same reference picture list as the <u>current</u> block ~~being predicted~~ and uses a reference index equal to the reference index used for the current block, the ~~predicted motion~~ <u>current</u> vector is set equal to the value of said ~~motion~~ vector.

19. (Currently Amended) <u>The method of claim 13</u> ~~A method of motion vector prediction according to claim 13~~ wherein if the ~~predicted motion~~ <u>current</u> vector has not been computed according to ~~the conditions of~~ either of claims 17 or claim 18 then the ~~predicted motion~~ <u>current</u> vector is computed by taking a component-wise median of ~~the 3~~ <u>three</u> neighbouring ~~motion~~ vectors.

20. (Currently Amended) <u>The method of claim 19</u> ~~A method of motion vector prediction according to claim 19,~~ wherein if no ~~motion~~ vector using the same reference picture list is available in one of said <u>three</u> neighbouring blocks, a zero-valued motion vector, (0,0), is used in place of ~~the motion~~ <u>a</u> vector from ~~that block~~ <u>one of said three neighbouring blocks</u> .